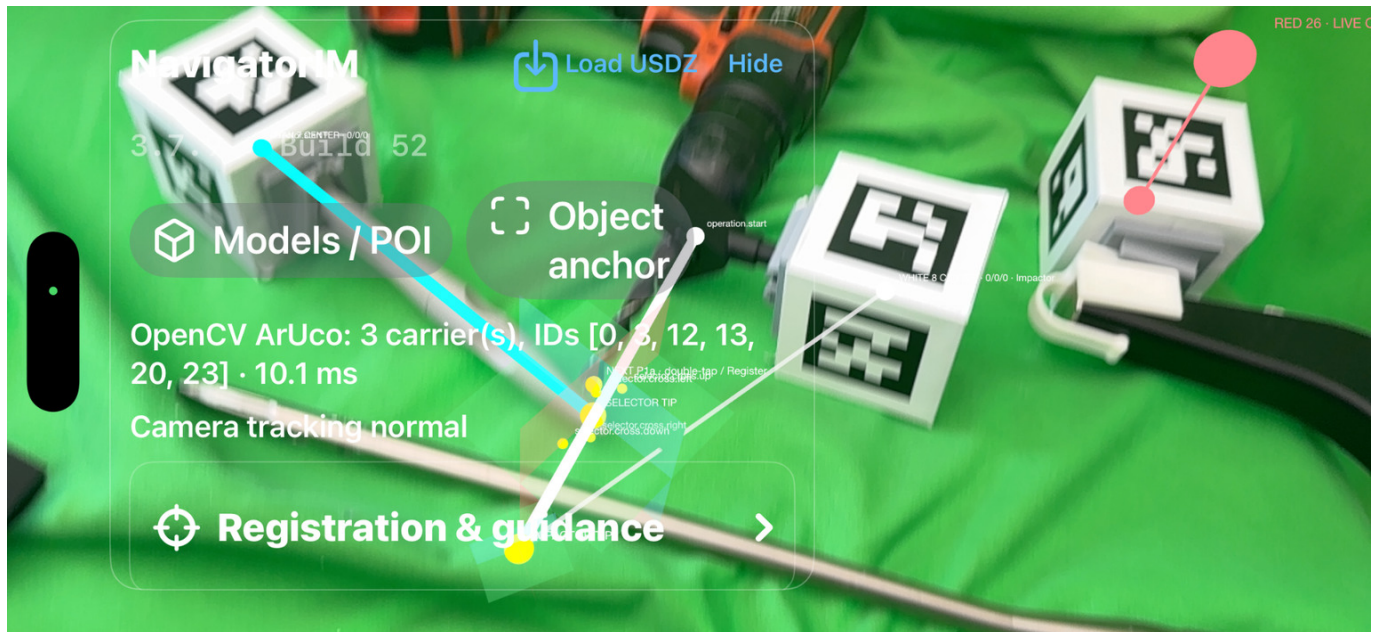


# Plan in place. Build with context.

A practical guide to the supplied reference kit and real app workflow

Use NavigatorIM to explain and compare three-dimensional relationships in a visible workspace. The demonstration materials show physical references, a calibrated selector, a separate tool, model placement and geometric displays. They do not establish an accuracy or safety specification.



## The five-step workflow

### 01 Print and measure

Use the actual A4 marker PDF, a rigid carrier and the specified finished dimensions.

### 02 Calibrate the real tips

Measure the selector and tool relative to their own carrier frames.

### 03 Register deliberately

Choose one input source and follow the P1, P2, D3 and D4 prompts.

### 04 Place the model

Review placement, orientation, units and physical scale separately from inspection size.

### 05 Check independently

Use known geometry and treat lost tracking or a moved mount as an invalid setup.

Source media: nine uploaded screenshots, two uploaded previews, and two earlier development clips supplied inside the source ZIP. Earlier clips are labelled in the YouTube film. No current native Vision Pro capture was supplied.

# Print the geometry, not a picture.

USE THE SEPARATE MARKER PDF AT ACTUAL SIZE / 100%

Do not print a screenshot, this guide illustration or a video frame as a calibration reference. Print the original marker PDFs in 03\_Printable\_References. Disable Fit, Shrink and borderless enlargement.

## 100 mm

Measure the printed scale, horizontally and vertically where applicable.

## 40.00 mm

Outer black marker square, including the black border — not only the coded interior.

## 60.00 mm

Finished opposing marker-plane spacing. Full face label is also 60 mm.

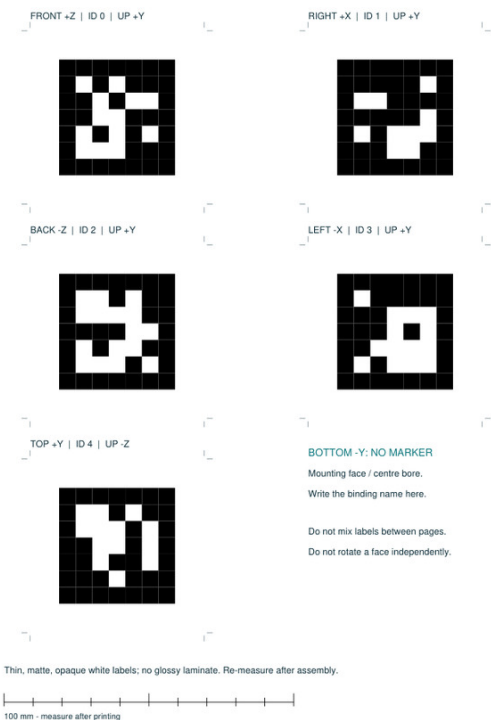
## 59.60 mm

Supplied core edge, allowing 0.20 mm label plus adhesive on each opposing face.

### Workpiece reference 26

Binding: reference26 | IDs: 0, 1, 2, 3, 4

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.



Measure your materials. The STL allowance assumes a 0.20 mm combined label/adhesive stack. Adjust label\_thickness in the SCAD when the stack differs. Do not stretch the PDF to compensate.

## Make a rigid mount

The supplied core has a 6.40 mm diameter, 18 mm deep blind bore entering the unmarked -Y mounting face. The STL retains the tracking coordinates: rotate X by +90 degrees in the slicer to put -Y down, then place it on the bed. Select print material and settings for rigidity; no mechanical load rating is claimed.

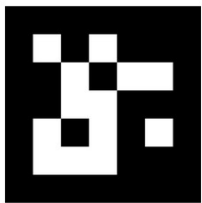
Keep labels flat, matte, opaque and clean. Show well-resolved, nonparallel faces where feasible. Glare, curling, flexing and occlusion are not corrected by changing the displayed model scale.

# One sheet. One physical identity.

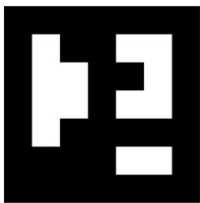
DICT\_5X5\_100 • FIVE LABELS PER CARRIER • NO DUPLICATE IDS IN VIEW

Apply FRONT +Z, RIGHT +X, BACK -Z, LEFT -X and TOP +Y. Leave BOTTOM -Y unmarked for mounting. On vertical faces, the top edge points toward +Y; on the top face, it points toward -Z. Centre each label without independent rotation.

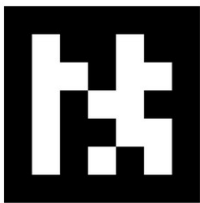
| Carrier     | Front | Right | Back | Left | Top |
|-------------|-------|-------|------|------|-----|
| reference26 | 0     | 1     | 2    | 3    | 4   |
| selector7   | 10    | 11    | 12   | 13   | 14  |
| tool8       | 20    | 21    | 22   | 23   | 24  |
| selector22  | 30    | 31    | 32   | 33   | 34  |
| aux6        | 40    | 41    | 42   | 43   | 44  |
| aux9        | 50    | 51    | 52   | 53   | 54  |
| fixture1001 | 60    | 61    | 62   | 63   | 64  |
| fixture1003 | 70    | 71    | 72   | 73   | 74  |
| fixture1004 | 80    | 81    | 82   | 83   | 84  |



RED reference26



CYAN selector7



WHITE tool8

These three are different roles. RED is the workpiece reference; CYAN is the optical point selector; WHITE is an operation tool. A body name such as “26” is not the same as a face marker ID. Put spare copies outside the scene.

Do not mix the supplied 5x5 dictionary carrier labels with historical 4x4 dictionary calibration boards. The individual one-page carrier PDFs retain the original print geometry.

# Calibrate, then register.

ONE SELECTED INPUT SOURCE • FRESH TRACKING • REVIEW EVERY CAPTURE

## Fix the workpiece reference

Attach RED26 rigidly to a stationary workpiece. A slipping or remounted reference invalidates the old relationship.

## Measure the tip

The current Build54 source sets CYAN7 to the starting offset (0,-175,0) mm. An older prose assembly file says +175 mm; that sentence is not the current source setting. Measure and calibrate your actual hardware — neither sign is a physical guarantee.

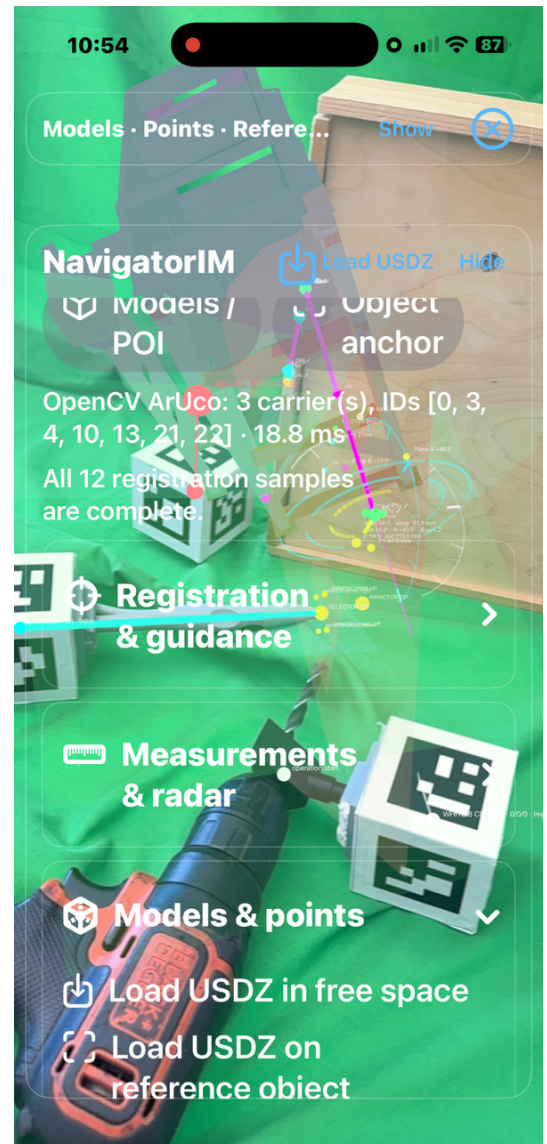
## Keep sources separate

Select CYAN, hand or Muse explicitly where the platform supports it. WHITE8 is not an automatic replacement for CYAN. Different operation-tool presets require their own measured setup.

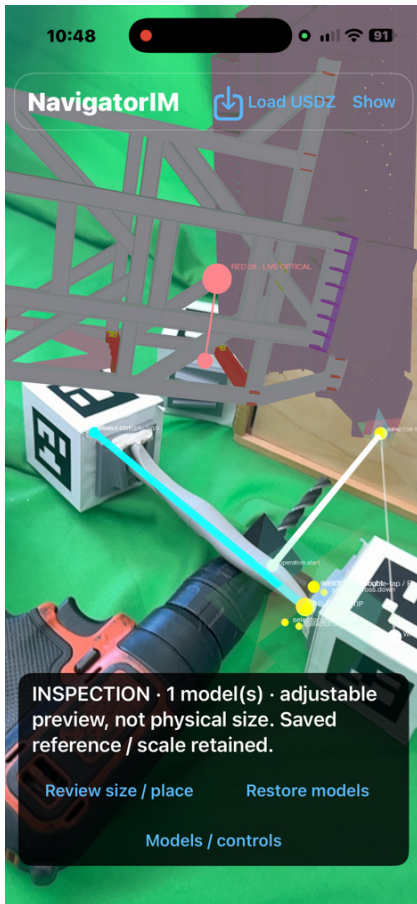
## Follow P1 / P2 / D3 / D4

The supplied screenshots show twelve completed registration samples. Follow the live prompts, inspect the point count and verify every position. Recollect questionable samples. Check a known target independently before using the registered model relationship.

Visibility is not freshness. A held sphere, model or radar display may remain visible after tracking becomes invalid. New capture must wait for the required current reference, calibrated input and valid session state. Restore tracking; do not force or substitute the source.



# Keep model size and frame explicit.

INSPECTION PREVIEW  $\neq$  PHYSICAL SCALE

## Choose placement

Load a supported USDZ and choose free space, a selected point or the appropriate recognized reference. Move, rotate and adjust opacity deliberately.

## Check scale

Confirm units and a known dimension. A temporary inspection size is only a viewing aid. Model import does not recognize an arbitrary physical object.

## Read each measurement as a separate relationship

Identify the selected target and reference axis. Point, radial and along values are not interchangeable; axis and plane values describe direction. Read the separate radar alongside the main scene. Millimetre units and green indicators are not accuracy or safety certifications.

Carrier visual origin differs from the tracking origin. The included Y-up, metre-based USDZ carrier models start at the bottom centre of the 59.60 mm core. The tracking rig is centred on the carrier. The core centre is 29.8 mm above the visual origin. Verify the attachment transform; do not silently equate the origins or apply the offset twice.

# Validate the setup before relying on it.

KEEP MACHINERY STOPPED AND SAFELY ISOLATED WHILE INTERACTING

## Known position, distance and direction

Use independent physical references, keep the same selected frame/source and repeat from several viewpoints. Define and justify acceptance for the intended non-safety-critical demonstration; no passing tolerance is invented here.

## Negative checks matter

Occlude RED and CYAN separately. New capture must become unavailable until valid tracking returns. Recheck after a mount moves, a model is resized, an engine is switched or the app resumes from the background.

## Understand the edition

The iOS active navigation path uses OpenCV ArUco and touch input. Build54 contains one native Vision Enterprise app, starting with ARKit Image Anchors. Main Camera/OpenCV is explicitly selected and requires appropriate Apple authorization and private business deployment. Native Vision hand/Muse input is not a native iPhone source.

## Know what this package does not establish

It does not establish physical accuracy, camera FPS, latency, native Vision performance or App Store acceptance. The source report still records inherited test failures and no full Apple SDK/device validation. A requested 120 Hz processing ceiling is not a measured 120 fps camera result.

Use limits: visual planning and training only. Not patient care, certified metrology, hidden-service detection, collision protection, machine control or accident prevention. Independently verify every physical operation.

## Support and source basis

info@orthopractis.com • [www.orthopractis.com](http://www.orthopractis.com)

Source basis: the supplied Build54 README, current calibration/rig code, device-test notes, original print PDF/STL and USDZ origin documentation. The complete text guide is included beside this PDF. Apple Enterprise API reference: [developer.apple.com/videos/play/wwdc2024/10139/](https://developer.apple.com/videos/play/wwdc2024/10139/).